

## **Liquid Crystal Display Device and Light Emitting Structure With Photonic Band Gap Transparent Electrode Structures**

### ***Abstract***

5 An LCD device for displaying an image includes pixel control electrodes  
constructed as a transparent metal stack having a photonic band gap (PBG)  
structure that transmits a visible range of wavelengths and suppresses a non-  
visible range of wavelengths. A liquid crystal layer between the pixel control  
electrodes controls the transmission of light in response to a voltage applied  
across the pixel control electrodes. A light emitting structure (LES), such as a  
10 light emitting diode (LED) or light emitting polymer (LEP) device includes a  
cathode electrode, a substrate, an active layer for emitting visible light, and a  
transparent anode electrode having a PBG structure.

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